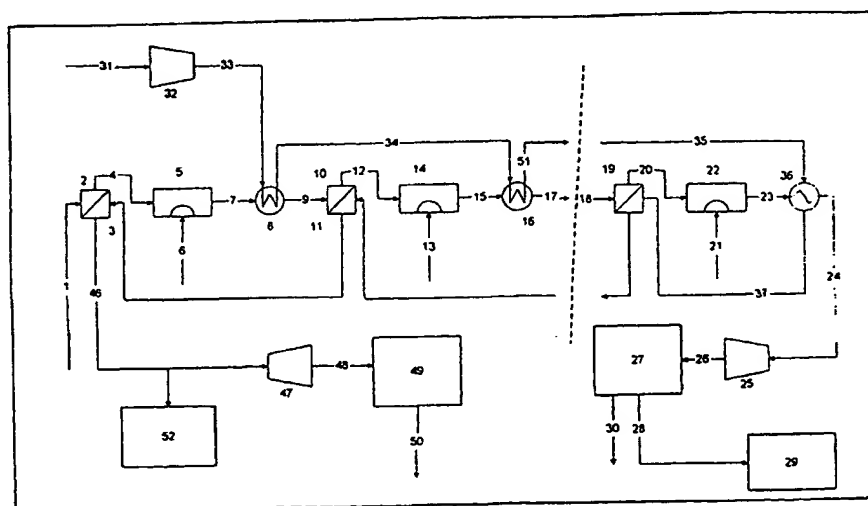


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(54) Title: METHOD FOR RECOVERING CO₂

(57) Abstract

A method for recovering substantially all carbon dioxide generated in a combustion process where the method comprises the following steps: a) a sweep gas is used to pick up oxygen on the permeate side of a mixed conducting membrane in a first stage which is capable of separating oxygen from a hot air stream fed to the retentate side of the membrane; b) the sweep gas containing oxygen is applied as oxidant in a combustor in the first stage where a carbon containing fuel is combusted; c) hot combustion products of step b) containing CO₂, H₂O and a low concentration of O₂ is used as sweep gas in a membrane in a second stage downstream the combustor in step b); d) the concentration of oxygen in the sweep gas of step c) is increased in the membrane in the second stage (step c) to a sufficiently high level to be used as oxidant in the combustor in the second stage; e) and the steps c) – d) are repeated in one or more stages. Furthermore, the present invention relates to use of the method in different processes.

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